



*Consulting Engineers  
and Scientists*

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November 6, 2006  
(PBW Project No. 1287)

VIA ELECTRONIC MAIL AND  
OVERNIGHT DELIVERY

Mr. Gary Miller  
Superfund Division, Region 6 (6SF-AP)  
Arkansas/Texas Section  
U.S. Environmental Protection Agency  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733

Ms. Barbara A. Nann, Assistant Regional Counsel  
U.S. Environmental Protection Agency, Region 6  
Superfund Division (6RC-S)  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733

RECEIVED  
2006 NOV -8 AM 11:30  
AR/OK/TX BRANCH

Re: Advance Notice of Chloroform Waste Disposal Activities, Gulfco Marine Maintenance  
Site, Freeport, Texas

Dear Mr. Miller and Ms. Nann:

Per our recent telephone conversations and pursuant to Section XII, Paragraph 55 of the modified Unilateral Administrative Order (UAO) for the above-referenced Site, Pastor, Behling & Wheeler, LLC (PBW), on behalf of LDL Coastal Limited LP (LDL), Chromalloy American Corporation (Chromalloy) and The Dow Chemical Company (Dow) (collectively referred to as Respondents in the UAO and the Statement of Work (SOW) attached thereto), herewith provides advance notice of planned chloroform waste disposal activities at the Site projected to begin on or after November 27, 2006.

In support of the planned activities and consistent with your request and/or UAO requirements, we are also providing the following:

1. Description of Planned Activities – Site characterization activities performed by LT Environmental, Inc. in 1999 (LTE, 1999. Site Characterization Report – Hercules Marine Service Facility, Freeport, Brazoria County, Texas, June) identified the presence of approximately 2,300 gallons of chloroform in one of the tanks in the former aboveground storage tank (AST) area at the Site. As we discussed, the Respondents, through the contractor, Clean Harbors Environmental Services, Inc. (CHESI), plan to remove the waste chloroform from the tank using a vacuum tanker and dispose of the waste at the CHESI incineration facility in Deer Park, Texas. Details of the planned activities are provided in the CHESI Work Plan included as



214845

Attachment A to this letter. In conjunction with the chloroform disposal work, CHESI will also gauge and collect samples from other tanks in the AST area with analyses for potential waste characterization parameters (e.g., reactivity, corrosivity, ignitability, toxicity). The tank gauging/sampling details are also provided in Attachment A. A final report, including waste manifests, incineration documentation, sampling documentation, and analytical results will be provided upon completion of proposed activities.

2. Health and Safety Plan – CHESI's health and safety plan for performing this work is included in Attachment B.
3. Names, titles and qualifications of the contractor (per Paragraph 42 of the UAO) – All work (except sample analyses) will be performed by CHESI. CHESI's qualifications are provided in Attachment A. Laboratory analyses will be performed by Gulf Coast Analytical, Inc (GCAL), the laboratory performing analyses for the RI/FS at the Site.
4. Insurance Certificate (per Paragraph 84 of the UAO) – CHESI's insurance certificate is included as Attachment C.
5. Quality Management Plan (per Paragraph 42 of the UAO) – CHESI's Quality Management Plan for work at the Site is included as Attachment D.

In accordance with Paragraph 52 of the UAO, I certify that I have been fully authorized by the Respondents to submit this information and to legally bind all Respondents thereto.

Thank you for your continued support on this project. Should you have any questions or comments regarding these planned activities, do not hesitate to contact me.

Sincerely,

PASTOR, BEHLING & WHEELER, LLC



Eric F. Pastor, P.E.  
Principal Engineer

cc: Mr. Brent Murray - Sequa Corporation  
Mr. Rob Rouse - The Dow Chemical Company  
Mr. Allen Daniels - LDL Coastal Limited, LP  
Mr. F. William Mahley - Strasburger & Price, LLP  
Mr. James C. Morris III - Thompson & Knight, LLP  
Ms. Elizabeth Webb - Thompson & Knight, LLP  
Ms. Tammy Jean Brasher – Clean Harbors Environmental Services, Inc.

**ATTACHMENT A**

**WORK PLAN FOR CHLOROFORM DISPOSAL  
AND TANK GAUGING/SAMPLING**



September 27, 2006

Mr. Eric Pastor  
Pastor, Behling & Wheeler, LLC  
2201 Double Creek Drive, Suite 4004  
Round Rock, Texas 78664

**Re: Work Plan for Chloroform Disposal and Tank Gauging/Sampling**

Dear Mr. Pastor:

Thank you for your interest in Clean Harbors Environmental Services (CHES). CHES is pleased to submit this work plan to you for the above referenced project. This work plan is based on information given to CHES by Pastor, Behling and Wheeler, LLC.

Clean Harbors Environmental Services provides turnkey services for Total Waste Management. Included in the CHES Total Waste Management service offering is a fleet of mobile on-site processing equipment, fully licensed and permitted hazardous waste transport vehicles and a network of CHES owned and CHES approved third party high temperature incinerators, TSD's and waste disposal facilities. This comprehensive service offering assures that the waste will be minimized, transported and disposed of in the most safe, economic and compliant manner.

**Health and Safety**

Safety is always our first priority. Beginning with initial training, safety procedures are emphasized throughout an extensive safety program. All personnel are trained to meet and exceed the OSHA requirements in CFR 1910.120. Monthly safety/operational meetings are held to reiterate and update existing procedures, as well as, introduce new ones. Before any project may begin, a Job Hazard analyses is completed. In addition, the CHES Health and Safety Department must complete a Site Specific Health and Safety Plan. This includes the determination of all safety-related facilities and the required equipment on the job site. Special handling requirements are noted such as the use of respiratory protection and protective garments.

CHES is committed to the safety and protection of its customers, employees, and subcontractors. CHES will prepare a site-specific Health and Safety Plan that complies with applicable safety regulations including 29 CFR 1910. The Plan will identify the hazards associated with the project and will establish the appropriate procedures and protocols for minimizing these hazards and their potential impact upon customers, employees, subcontractors and the community.

### **Chloroform Work Plan**

The chloroform tank will be accessed utilizing a 5000-gallon vacuum tanker. The tanker will tie into the lower tank valve and begin the transfer of material from the tank to the tanker. The vapors from the tank will be vented thru a trailer mounted carbon canister. Any solids/sludge's remaining in the tank will be rinsed into the tanker using on-site water. Should the material inside the tank contain high levels of rust or debris, it will not be able to be washed into the tanker. It will have to be removed by hand and placed into drums. Should this be required it will be addressed under separate cover.

The material will be manifested and transported via tanker to the Clean Harbors Incinerator in Deer Park, Texas. The quantity of the material will be confirmed via a certified scale at the facility. A confirmation sample will be pulled upon arrival for waste verification. The tanker will remain at the facility until it has been hooked up to the direct burn line and evacuated. Upon completion the generator will receive a certificate of destruction. The tanker will then be taken to a tank wash to get a certified cleaning.

### **Tank Gauging/Sampling Work Plan**

The tanks will be accessed utilizing ladders. The gauging will be done with various devices, weighted lines, gauge rulers, visible means etc. Samples will be pulled with tank thief's from the top of the tanks or sample jars may be filled at the valve outlets. The samples will be placed in the appropriate containers. A chain of custody will be completed and the samples shipped or delivered to the lab of choice. Any personnel performing the sampling will be in the recommended ppe including a full face respirator.

CHES appreciates the opportunity to provide this work plan. Should you have any questions or concerns, please do not hesitate to call me at 281-478-7758.

Sincerely,  
**Clean Harbors Environmental Services, Inc.**  
Tammy Jean Brasher  
Tammy Jean Brasher  
Field Service Specialist

**ATTACHMENT B**

**CLEAN HARBOR'S ENVIRONMENTAL SERVICES, INC.  
HEALTH AND SAFETY PLAN**

## **SITE SPECIFIC HEALTH AND SAFETY PLAN**

### **Prepared For:**

Gulfco Marine Maintenance

### **Prepared By:**

**Clean Harbors Environmental Services, Inc.**

**Date: 10-17-06**

**Project No.: Chloroform Waste Removal**

### **Prepared By:**

**Clyde Harold Findley  
Health and Safety Manager**

### **Reviewed By:**

**Thomas B. Hagadorn  
Health and Safety Field Service General Manager**

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**SITE HEALTH AND SAFETY PLAN**

SITE NAME: Gulfco Marine Maintenance

SITE ADDRESS: 906 Marlin Avenue  
Freeport Texas



## TABLE OF CONTENTS

SECTION:	PAGE
1.0 CLEAN HARBORS ENVIRONMENTAL SERVICES, INC. HEALTH AND SAFETY PROGRAM	6
2.0 HEALTH AND SAFETY DESIGNATIONS	6
2.1 Manager of Environmental Health and Safety	
2.2 Site Health and Safety Representative	
2.2.1 Qualifications	
2.2.2 Responsibilities	
2.3 Site Health and Safety Officer	
3.0 MEDICAL SURVEILLANCE	8
4.0 PERSONNEL TRAINING	9
4.1 Training	
4.2 Program Monitoring	
5.0 WORK ZONES	10
5.1 Exclusion Zone	
5.2 Contamination Reduction Zone	
5.3 Support Zone	
6.0 PERSONAL PROTECTION	12
6.1 Levels of Protection	
6.1.1 Level A	
6.1.2 Level B	
6.1.3 Level C	
6.1.4 Level D	
7.0 DECONTAMINATION PROCEDURES	13
7.1 Standard Decontamination Procedures	
7.2 Emergency Decontamination Procedures	
8.0 AIR SURVEILLANCE	15
9.0 SAFETY PRECAUTIONS/WORK PRACTICES	16
10.0 MISCELLANEOUS HEALTH AND SAFETY ITEMS	17
10.1 Information Program	
10.1.1 Purpose	
10.1.2 Scope	
10.1.3 Procedures - Employees	
10.1.4 Procedures - Contractor and Subcontractor	

10.1.5	Procedures - Employees, Contractors, Subcontractors	
10.2	Confined Space Program	
10.3	Excavation Procedures	
10.4	Communications	
10.4.1	Radio Devices	
10.4.2	Air Horns	
10.4.3	Hand Signals	
11.0	SAFETY MEETING	20
12.0	EMERGENCY RESPONSE/CONTINGENCY PLANNING	21
12.1	Definitions	
12.2	Pre-Planning Procedures for Emergency Response	
12.3	Key Personnel and Phone Numbers	

## **APPENDICES**

### **APPENDIX A – Chloroform MSDS**

# **SITE HEALTH AND SAFETY PLAN**

## **INTRODUCTION:**

This Site Health and Safety Plan is designed to establish policies and procedures for protecting the health and safety of Clean Harbors Environmental Services, Inc.' employees during operations associated with emergency response and remediation activities.

Due to the unpredictable and hazardous nature of these operations, it is impossible to identify, evaluate and control all possible hazards. Strict adherence to this plan will reduce, not eliminate, the potential for injury. Therefore, Clean Harbors Environmental Services, Inc. cannot and does not guarantee the health and safety of on-site personnel. It is the responsibility of on-site personnel to report all potential hazards to the Project Manager and Site Health and Safety Representative.

## **1.0 CLEAN HARBORS ENVIRONMENTAL SERVICES, INC. HEALTH AND SAFETY PROGRAM**

Clean Harbors Environmental Services, Inc. (CHESI) has developed an extensive program to ensure the health and safety of all employees as well as the public. The goal of the health and safety program is to minimize the risk of illness, injury or environmental perturbation during site evaluation and hazardous waste cleanup. Clean Harbors Environmental Services, Inc.' Health and Safety Program provides the basis for the site-specific health and safety plan that is developed for each hazardous waste remedial operation. Routine activities are also accomplished through the implementation of Clean Harbors Environmental Services, Inc.' standardized health and safety program. These programs include Hazard Communication; confined Space Entry; Respiratory Protection; Contingency/Spill Control (Pending); Drum Handling (Pending) and Tank Removal (Pending) among others. Copies of these programs are available upon request to the Manager of Occupational Health and Safety.

## **2.0 HEALTH AND SAFETY DESIGNATIONS**

The following briefly describes Clean Harbors Environmental Services, Inc. Health and Safety designations, and the general qualifications and responsibilities associated with each position.

### **2.1 Manager of Environmental Health and Safety**

The Manager of Environmental Health and Safety will have overall responsibility for the development and implementation of the Site Health and Safety Plan. If revisions in the Site Health and Safety Plan become necessary due to changes in site conditions or operations, the proposed revisions will be presented to the Manager of Environmental Health and Safety for review and final approval before any revisions will be implemented on site.

## 2.2 Site Health and Safety Representative

### 2.2.1 Qualifications

As a minimum, the Site Health and Safety Representative (SHSR) will possess the following qualifications.

- a) One-year experience in chemical or hazardous wastes industry and/or an advanced degree in industrial hygiene or occupational safety.
- b) Training in basic first aid and CPR.
- c) Demonstrable knowledge of proper air monitoring techniques and of proper application, use, and limitations of field monitoring equipment.
- d) Demonstrated expertise in use and limitations of personal protective equipment in field activities.

### 2.2.2 Responsibilities

The Site Health and Safety Representative (SHSR) will be responsible for the on-site implementation and enforcement of the Site Health and Safety Plan. Additionally, the responsibilities will include.

- a) Supervision of site sampling and monitoring.
- b) Implementation of site air monitoring program.
- c) Supervision and evaluation of site decontamination procedures.
- d) Determination of appropriate levels of personnel protection.
- e) In consultation with the Project Manager, the SHSR will delineate specific work zones, (i.e., Exclusion Zone, Contamination Reduction Zone, and Support Zone), to maintain site integrity and personnel safety.
- f) Supervise monitoring and evaluation of the site and environmental conditions, as well as, work activities to ensure the health and safety of on-site personnel.
- g) Ensure daily health and safety meetings are conducted.
- h) Report to Manager, Environmental Health and Safety, (on a regular basis), as to the status of operations, additional hazards encountered and requested changes in Site Specific Health and Safety Plan.
- i) Continually evaluate the effectiveness of the Site Health and Safety plan and advise the Project Manager of any potential deficiencies in the site health and safety plan that must be addressed for operations to be continued.
- j) To stop all site activities that poses an immediate threat to the health or safety of on-site personnel or the surrounding community.

### 2.3 Site Health and Safety Associate

The Site Health and Safety Associate, (SHSA), shall report to the Site Health and Safety Representative and shall assume all routine, on-site health and safety responsibilities, in the absence of the Site Health and Safety Representative. If emergency conditions arise or operational changes occur or are anticipated, (e.g., work practices are altered, site conditions change), the SHSA shall contact the Site Health and Safety Representative immediately.

The Project Manager, in consultation with the Site Health and Safety Representative shall designate the Site Health and Safety Associate. The Manager, Occupational Health and Safety shall be contacted and approve all SHSA appointments.

The Site Health and Safety Associate shall report all changes in site conditions and/or potential hazardous operations to the Site Health and Safety Representative immediately.

### 3.0 **MEDICAL SURVEILLANCE**

Every Clean Harbors Environmental Services, Inc. employee whose work entails potential exposure to hazardous materials or environments must take part in a comprehensive Medical Monitoring Program (MMP). Before assignment to an emergency response crew or remediation site, each Clean Harbors Environmental Services, Inc. employee must complete a medical screening and surveillance examination. This information is used to establish the present medical status of the individual and can be used to assess possible future exposures in the work environment. The following diagnostic tests are performed as part of this examination:

- Blood count and differentials
- SMA 25 (screen for liver and kidney function)
- Complete urinalysis including sedimentation
- Baseline chest X-ray
- Electrocardiogram and pulmonary function test
- Audiometric and visual activity evaluation

Under some circumstances, the examining physician may request the following tests:

- Sperm count (may include mobility)
- Sputum cytology
- Proctosigmoidoscopy
- Laryngoscope
- Liver scans
- Tomometry
- Hematocult

During the physical examination, the physician pays special attention to the individual's ability to wear negative-pressure air purifying respirators and self-contained breathing apparatus (SCBA) under working conditions. It is at this point in the examination when the physician must evaluate pulmonary function, cardiovascular status, weight carrying capacity and ability to detect odors.

## 4.0 PERSONNEL TRAINING

### 4.1 Training Program

Clean Harbors Environmental Services, Inc. provides a comprehensive training program to all employees whose work entails potential exposure to toxic chemicals or hazardous environments. The program is designed to promote safe work practices under simulated hazardous environmental conditions.

Clean Harbors Environmental Services, Inc. Use in-house experts and a specially designed training facility to conduct all training. Each training program is supervised by Clean Harbors Environmental Services, Inc.' technical experts who have extensive experience in the field of hazardous waste management and college degrees in environmental fields or technical certification.

The technical training facility of CHESI includes a 20,000 square foot building where practical demonstrations are staged. The facility includes: 2,000 gallon tank for confined space entry, exit, and extraction; an SCBA demonstration maze; respirator fit testing rooms; leak and spill response equipment; and decontamination line demonstration.

CHESI provides the following training to its employees:

- New hire employees, as well as, all present employees attend a 40-hour program which is designed to fulfill the requirements of OSHA's 29 CFR 1910.120 Hazardous Waste and Emergency Response Standard.
- Supervisors and Foremen receive additional training (more than 8 hours per year), which is geared toward supervisory responsibilities and skills in handling hazardous materials.
- Employees also attend mandatory weekly safety meetings.
- Drivers receive an additional week of training directed toward the operation of the equipment and materials handling.

All of the above training incorporates Clean Harbors Environmental Services, Inc.' policies, procedures and philosophy.

In addition to the above training and additional on-site training, CHESI also has several courses that supplement the basic program and cover topics such as first aid, CPR, and others. Although CHESI does use the in-house expertise to the fullest, outside consultants are sometimes used to augment the program.

### 4.2 Program Monitoring

All training, whether in-house or outside, is monitored by a specially designed database program. All Supervisors receive a monthly report on the progress of each individual employee. At any

time, an individual's record can be retrieved to review a complete history of the employee's training.

## **5.0 WORK ZONES**

Clean Harbors Environmental Services, Inc. Use a three-zone approach in controlling site activities. These zones consist of the Exclusion Zone, Contamination Reduction Zone, and Support Zone. Movement of personnel and equipment between these zones and onto the site will be strictly regulated through access control points.

The purpose of implementing these work zones is twofold: 1) to prevent possible exposure of unprotected site personnel to hazardous materials; 2) to prevent removal or migration of contaminants from the site.

The actual size of these work zones will be dependent upon several factors including scope of work, contaminants encountered, as well as, environmental and site conditions. It will be the responsibility of the Health and Safety Representative, Site Health and Safety Associate, and Project Manager to continually evaluate and determine the appropriate size and location of these work zones, as well as, the location of the specific access control points.

### **5.1 Exclusion Zone**

The Exclusion Zone, the closest to the contamination area of the three areas, is the zone where contamination does or could occur. All people entering the Exclusion Zone must wear prescribed levels of protection. An entry and exit check point must be established at the periphery of the Exclusion Zone to regulate the flow of personnel and equipment into and out of the zone and to verify that the procedures established to enter and exit are followed.

The outer boundary of the Exclusion Zone, the Hotline, is initially established by visually surveying the immediate environs of the incident and determining where the location of hazardous substances, drainage, leakage, or spilled material; and whether any discoloration's are visible. Guidance in determining the boundaries is also provided by data from the initial site survey indicating the presence of organic or inorganic vapor/gases or particulates in air, combustible gases, and radiation, or the results of water and soil sampling.

Additional factors that are considered include the distances needed to prevent fire or an explosion from affecting personnel outside the zone, the physical area necessary to conduct operations, and the potential for fugitive emission release. Once the Hotline has been determined, it will be physically secured, fenced, or well defined by landmarks. During subsequent site operations, the boundary may be modified and adjusted, as more information becomes available.

All individuals entering the Exclusion Zone must have: 1) proper training certification; 2) appropriate personal protective equipment; and 3) medical authorization. Personal protective equipment will be designated based on site-specific conditions including the type of work to be done and the hazards that may be encountered. Frequently, within the Exclusion Zone, different levels of protection may be justified. Levels of protection are based on: measured concentrations of substances; potential for contamination; known or suspected presence of highly toxic

substances; and the task being conducted within an area. The Health and Safety Representative will be responsible for evaluating available information and establishing appropriate levels of protection.

## 5.2 Contamination Reduction Zone

Between the Exclusion Zone and the Support Zone is the Contamination Reduction Zone. This area provides a transition between contaminated and clean zones. This zone serves as a buffer to further reduce the probability of the clean zone becoming contaminated or being affected by other existing hazards. It provides additional assurance that the physical transfer of contaminating substances and people, equipment or in the air is limited through a combination of decontamination, distance between Exclusion and Support Zones, air dilution, zone restrictions, and work functions.

Initially, the Contamination Reduction Zone is considered a non-contaminated area. At the boundary between the Exclusion and Contamination Reduction Zones, a Contamination Reduction Corridor (decontamination station) is established. Depending on the size of the operation, more than one corridor may be necessary. Exit from the Exclusion Zone is through a Contamination Reduction Corridor. As operations proceed, the area around the decontamination station may become contaminated, but to a much lesser degree than the Exclusion Zone. On a relative basis, the amount of contaminants should decrease from the Hotline to the Support Zone due to the distance involved and the decontamination procedures used.

Access to the Contamination Reduction Zone from the Support Zone is through a control point. Personnel entering this location will wear the prescribed personnel protective equipment, if required, for working in the Contamination Reduction Zone. Entering the Support Zone requires decontamination and removal of any protective equipment worn in the Contamination Reduction Zone.

## 5.3 Support Zone

The Support Zone, the area most remote from site contamination, is considered a non-contaminated or clean area. Support equipment (command post, equipment trailer, personal hygiene facility, etc.) is located in this zone; traffic is restricted to authorized response personnel. Since normal work clothes are appropriate within this zone, potentially contaminated personal protective equipment, clothing, and samples are not permitted in this area. The listed materials are left in the Contamination Reduction Zone until they are decontaminated.

The location of the command post and other support facilities within the Support Zone depends on a number of factors, including:

- Accessibility: topography; open space available; locations of highways, railroad tracks; or other limitations.
- Wind direction: preferably, the support facilities should be located upwind of the Exclusion Zone. However, shifts in wind direction and other conditions may be such that an ideal



location based on wind direction alone does not exist.

- Resources: adequate roads, power lines, water, and shelter.

## **6.0 PERSONAL PROTECTION**

The levels of protection to be utilized by site personnel will be clearly defined in the Job Hazard Analysis. The Health and Safety Representative, with the approval of the Manager of Occupational Health and safety, will have authority to upgrade or downgrade these levels of protection as deemed necessary or prudent.

### **6.1 Levels of Protection**

Clean Harbors Environmental Services, Inc. utilizes a four level system for the protection of personnel from the chemical, physical, and biological hazards that may be encountered at hazards waste sites. These levels of protection, (Level A, Level B, Level C, and Level D), are designed to provide protection to the respiratory system, skin, eyes, face, hands, feet, head, body, and hearing of site personnel.

In certain instances, site-specific tasks or environmental conditions may make it necessary to modify or alter these levels of protection. These minor alterations, (i.e., utilization of hearing protection, hard hat, face shield, etc.); will be made by the Health and Safety Representative as required.

The following generally describes these levels of protection:

#### **6.1.1 Level - A**

Level "A" protection affords the highest level of respiratory, skin, and eye protection. The following personal protective equipment (PPE) will be used, as a minimum for Clean Harbors Environmental Services, Inc.' level A protection.

- Full face-piece pressure-demand, SCBA or supplied-air respirator with escape SCBA
- Fully encapsulating, chemical resistant suit
- Inner chemical-resistant gloves
- Chemical-resistant safety boots

#### **6.1.2 Level - B**

Level "B" protection provides the same level of respiratory protection as Level "A", but provides a lower level of skin protection.

The following personal protective equipment (PPE) will be used, as a minimum for Clean Harbors Environmental Services, Inc.' Level "B" protection.

- Full-face-piece, pressure-demand, SCBA supplied-air respirator
- Chemical-resistant clothing (coveralls)
- Inner and outer chemical-resistant glove
- Chemical resistant boots

#### 6.1.3 Level - C

Level “C” protection provides the same level of skin protection as Level “B” but, provides a lower level of respiratory protection.

The following personal protective equipment (PPE) will be used, as a minimum for Clean Harbors Environmental Services, Inc.' Level “C” protection:

- Full face-piece, air-purifying, respirator equipped with appropriate chemical/mechanical Cartridges
- Chemical-resistant clothing (coveralls)
- Chemical-resistant gloves
- Chemical-resistant boots

#### 6.1.4 Level - D

Level “D” protection does not provide respiratory protection and affords only minimal skin protection.

The following personal protective equipment (PPE) will be used, as a minimum for Clean Harbors Environmental Services, Inc.' Level “D” protection.

- Coveralls/uniform
- Safety boots
- Gloves
- Eye protection.

## 7.0 **DECONTAMINATION PROCEDURES**

Decontamination consists of physically removing contaminants or changing their chemical nature to innocuous substances. How extensive the process depends upon several factors, including the type of contaminant, the amount of contamination, levels of protection utilized, and the type of protective clothing worn. The more harmful the contaminant, the more extensive and thorough the decontamination procedures will likely be. Less harmful contaminants normally require less extensive decontamination procedures.

### 7.1 Standard Decontamination Procedures

The initial decontamination plan is based upon a worst-case situation or assumes no information is available about the incident. This initial plan may then be modified, (i.e., stations may be eliminated or combined), as more specific information becomes available.

A site-specific system will be established in which personnel and their equipment will be decontaminated in combination with a sequential doffing of protective equipment. Each step of the decontamination procedure will be performed at the specific station within the Contamination Reduction Zone. The first station will involve the cleaning and doffing of the most heavily contaminated items and progressing to the last station with the least contaminated articles.

All personnel and equipment, leaving the Exclusion Zone, will be thoroughly decontaminated before passing through to the Support Zone. It will be the responsibility of the Health and Safety Representative to continually evaluate and implement the site-specific decontamination procedures.

## 7.2 Emergency Decontamination Procedures

An attached Appendix provides site-specific chemical hazard information in the form of Material Safety Data Sheets for all chemicals known or suspected of being present on-site. Emergency decontamination procedures shall include the following:

- \* Another team member should remove the individual from the immediate area of contamination;
- \* Precautions should be taken to avoid exposure of other individuals to the chemical;
- \* If the chemical is on the individual's clothing, the clothing should be removed if it is safe to do so;
- \* If the chemical has contacted the skin, the skin should be washed with copious amounts of water, preferably under a shower for at least 15 minutes;
- \* In case of eye contact, emergency eyewash should be used. Eyes should be washed for at least 15 minutes;
- \* If necessary, the victim should be transported, (with all appropriate MSDS), to the nearest hospital or medical center. If necessary, an ambulance should be called to transport the victim;

There is the possibility that the decontamination may aggravate or cause more serious health effects. If prompt life-saving first aid and medical treatment is required, decontamination procedures should be omitted. Whenever possible, response personnel should accompany contaminated victims to the medical facility to advise on matters involving decontamination.

Life-saving care should be instituted immediately without considering decontamination. The outside garments can be removed, (depending on the weather), if they do not cause delays, interfere with treatment, or aggravate the problem. Respirator assemblies must always be removed. Chemical resistant clothing can be cut away. If the other contaminated garments cannot be safely removed, the individual should be wrapped in plastic, rubber, or blankets to help

prevent contaminating personnel and the inside of the ambulance. Outside garments are then removed at the medical facility. No attempt should be made to wash or rinse the victim at the site. One exception would be if it were known that the individual has been contaminated with an extremely toxic or corrosive material, which could also cause severe injury or loss of life. For minor medical problems or injuries, the normal decontamination procedure should be followed.

Heat stroke requires prompt treatment to prevent irreversible damage or death. Unless the victim is obviously contaminated, decontamination should be omitted or minimized and treatment begun immediately. Protective clothing may have to be cut off. Less serious forms of heat stress require prompt attention or they may lead to heat stroke.

When protective clothing is grossly contaminated, contaminants may be transferred to treatment personnel or the wearer and cause injuries. Unless several medical problems have occurred simultaneously with splashes, the protective clothing should be washed off as rapidly as possible and carefully removed.

## **8.0 AIR SURVEILLANCE**

Clean Harbors Environmental Services, Inc. will design, develop and implement an air surveillance program to detect and quantify any volatilization of material or release of toxic aerosols from the work site.

This program shall consist of air monitoring, (utilizing direct reading instruments capable of providing real-time indications of air contaminants), as well as, air sampling, (collecting air samples on an appropriate sampling media, i.e., integrated monitoring, or collecting a sample of air in a suitable sampling container followed by laboratory analysis) This program shall include evaluation of potentially toxic, combustible, and oxygen deficient/enriched atmospheres, as well as, evaluation for potentially radioactive materials.

The Site Health and Safety Representative, in cooperation with the Corporate Industrial Hygienist and Project Manager, shall be responsible for ensuring site and employee monitoring is conducted in an appropriate manner, (i.e., following standard industrial hygiene protocols), and that air monitoring/sampling procedures shall be conducted at a frequency sufficient to ensure accurate assessments of site conditions, and the effectiveness of work practices, engineering controls, and/or PPE.

In addition, the Site Health and Safety Representative shall ensure a daily, on-site log is maintained of all air monitoring/sampling results.

The specific air surveillance equipment, techniques, and frequency to be utilized on-site will be specified the Job Hazard Analysis. The information gathered during the air-monitoring program should be used for the following:

- a) Determine the proper Personal Protective Equipment;
- b) Determine the appropriateness of upgrading or downgrading Levels of Protection;

- c) Ensure site integrity and containment of hazardous substances within the Exclusion Zone;
- d) Document on-site employee exposures;
- e) Assess the potential health effects of exposure to site contaminants.
- f) Determine the need for specific medical monitoring;
- g) Delineate areas where personal protective equipment is needed;

## **9.0 SAFETY PRECAUTIONS/WORK PRACTICES**

Clean Harbors Environmental Services, Inc. is committed to developing and maintaining strong safety awareness on all job sites. A list of standing orders has been developed to ensure that all persons are cognizant of potential hazards. These orders will be distributed to persons entering the site and will be conspicuously posted the standing orders will be reviewed by the Project Manager or Supervisor. Any changes in the orders will be announced officially during the daily safety meetings.

The following orders apply:

- The buddy system will be utilized at all times.
- All workers will attend the daily safety meeting before commencing work. (See Section 11.0).
- Smoking, eating, and drinking are strictly prohibited outside of the Support Zone.
- Matches, lighters, and smoking materials must not leave the Support Zone.
- Entry into and exit from zones within the site must be made via the established access control points.
- Prescribed personal protective equipment must be worn as directed by the Health and Safety Representative and Project Manager.
- If the protective clothing should tear, it will be replaced immediately.
- Assumptions will not be made concerning the nature of materials found on the site. Should any unusual situations occur (not mentioned in the Job Hazard Analysis) operations will cease and the Health and Safety Representative and the Project Manager will be contacted for further direction.
- Communication hand signals will be understood & reviewed daily.
- Consultation with the Project Manager shall be made to verify any uncertainties.
- The Project Manager and Health and Safety Representative will be informed when;

- \* Odors are detected while wearing respiratory protection;

- \* Symptoms of chemical exposure become apparent;

And/or

- \* Injuries occur on-site.

- Improperly grounded/guarded tools shall be tagged out-of-service and the Project Manager shall be notified immediately.
- If a piece of equipment fails or is found to be in need of repair, it will be immediately tagged out-of-service and the Project Manager shall be notified. This equipment will not be returned to service until repairs have been completed and the equipment tested by a competent individual.
- Unsafe conditions shall be reported immediately.
- Unusual odors, emissions, or signs of chemical reaction shall be reported immediately.
- Workers will minimize contact with hazardous materials by:
  - \* Avoiding areas of obvious contamination;
  - \* Using polyethylene sheeting to help contain contaminants; and
  - \* Avoiding contact with toxic materials.
- Only essential personnel will be permitted in the work zones.
- Whenever possible, personnel will be located upwind during material handling.
- At the first sign of odors detected inside the facepiece of a respirator the employee shall leave the exclusion zone and report the incident to the Health and Safety Representative and the Project Manager.
- If an employee begins experiencing any signs or symptoms of exposure to site toxic material (this information will be discussed during the daily meeting and/or can be found on the appropriate material safety data sheets). The employee will leave the area immediately and report the incident to the Health and Safety Representative and Project Manager.

## **10.0 MISCELLANEOUS HEALTH AND SAFETY ITEMS**

### **10.1 Information Program**

#### **10.1.1 Purpose**

The purpose of CHEST's Information Program (IP) is to inform employees, contractors, and subcontractors (or their representative) of the hazardous substances, health hazards and other hazards they are likely to encounter while working on this site.

### 10.1.2 Scope

CHESI will notify employees, contractors, and subcontractors of the nature, level and degree of exposure likely as a result of participation at this hazardous waste operation.

This plan is intended to cover workers who are exposed to greater hazards than the general employee population. Consequently, a clerk in an office on the periphery of a site who does not enter the operations part of the site and is exposed only to background levels of hazardous substances is not covered under this plan. Employees, who regularly enter the operations areas of the site and who are exposed to levels significantly over background, are covered.

This plan concentrates on those substances that will create the greatest risk to employees. Risk assessment considers the following! Substance toxicity; potential for exposure; proximity to toxic substance; and availability of controls. For example, a level of exposure to a general population that is not likely to exceed background levels would not normally require notification. Similarly, a level of exposure above background but below establish permissible exposure limits, would also not require specific notification. As a precaution however, if levels are unknown, employees, contractors, and subcontractors will be informed of the potential for exposure. Employees will be required to use appropriate protection until the area can be characterized through air monitoring

### 10.1.3 Procedures - Employees

1. Material Safety Data Sheets (MSDS) will be obtained for all hazardous materials that are anticipated to exceed established permissible exposure limits.
2. Employees will be provided training as specified under CHESI's Hazard Communication Program (HCP), Section 2.3.
3. The Training Documentation Form (HCP - Form 1) or equivalent will be completed. Refer to Section 2.5 of the HCP "Training Documentation" for guidance on form completion.

### 10.1.4 Procedures - Contractor and subcontractor

1. If operations shall be conducted at a CHESI TSDF, Section 7.0 of the Company's HCP will be referenced.
2. HCP - Form 3 will be completed.
3. Appropriate MSDS will be provided to all contractors.
4. Information contained in the Site Specific Health and Safety Plan will be discussed with all contractors.

5. Procedure to be followed in the event an unanticipated hazardous chemical is encountered will also be discussed.

#### 10.1.5 Procedures Employees, Contractors, Subcontractors

1. Discuss exposure level estimates.
2. Explain operations where exposures are anticipated.
3. Explain degree of risk as the result of exposure levels and participation in the specific operations at the site.

### 10.2 Confined Space Program

Clean Harbors Environmental Services, Inc.' has developed a Confined Space Program to significantly reduce the risk of accidental injury or death associated with entering and working in confined spaces. This program shall be strictly followed during any operation involving confined space entry. The program is designed not only to make confined spaces safer for workers, but also to make workers and supervisors cognizant of the hazards and the safe work practices necessary to address these hazards.

Clean Harbors Environmental Services, Inc.' Confined Space Program is designed to enable CHESI employees to identify confined space hazards, including oxygen deficient/enriched, combustible, and toxic atmospheres, and how to minimize their risks. The program includes theoretical, as well as, practical, ("hands-on") instruction in confined space hazards, (provided during OHZ 40-hr training program); written confined space program information, (CHESI Confined Space Entry Program); and additional job/site specific training.

### 10.3 Excavation Procedures

Clean Harbors Environmental Services, Inc.' has developed a training program designed to assist CHESI employees in making decisions on how to provide safe working conditions while working in and around excavation sites. This program is designed to provide an understanding of OSHA excavation and trenching standards; soil evaluation; proper sloping decisions; hazards associated with excavations and trenching; and the signs and causes of cave-ins.

As necessary, additional training shall be provided to all on-site personnel regarding site-specific excavation/trenching procedures and the related hazards.

### 10.4 Communications

In order to maintain contact between workers and the various operations that may be occurring on site, Clean Harbors Environmental Services, Inc., uses several different forms of



communication. The method of communication to be used on site will be determined by such factors as, site and working conditions, as well as the current operations. It will be the responsibility of the Health and Safety Representative in association with the Project Manager to determine the most appropriate form of communication

#### 10.4.1 Radio Devices

Hand held two-way radios should be utilized when necessary to maintain direct voice contact between field crews and Health and Safety Representative or Project Manager.

#### 10.4.2 Air Horns

Air horns may be utilized by field crews, as well as the support personnel, to convey emergencies or as a back up to radio communication.

One blast - attention

Two blasts - leave the area

Three blasts - leave the area immediately (emergency situation)

#### 10.4.3 Hand Signals

Hand signals will be utilized by all field crews to convey emergencies and/or with the failure of two-way radio communication. As a minimum, the following hand signals shall be understood and utilized by all on-site personnel.

- |  |                                  |
|--|----------------------------------|
| ◆ Hands gripping throat  | ----- Out of air, cannot breathe |
| ◆ Grip's partner's wrist or<br>Point to Contamination Reduction Corridor | ----- Leave area immediately     |
| ◆ Hands on top of head   | ----- Need assistance            |
| ◆ Thumbs up  | ----- O.K., I understand         |
| ◆ Thumbs down  | ----- No I don't understand      |

### 11.0 SAFETY MEETING

Daily safety meetings are held to discuss the following;

1. Contents of the Site Health and Safety Plan;
2. Hazards of chemicals handled at the specific job;

3. Safety precautions/work practice (see Section 9.0);
4. Daily activities.

A daily attendance sheet shall be completed listing the information discussed at the safety meeting and those in attendance. The sheet will be available for on-site inspection by the Health and Safety Department. These sheets will be maintained in the job file.

## **12.0 EMERGENCY RESPONSE/CONTINGENCY PLANNING**

Due to the uncertain nature of emergency response and hazardous waste site operations, it is necessary to anticipate and prepare for potential mishaps. To accomplish this, a job hazard analysis form should be completed. This analysis should include but is not limited to the following: the names and phone numbers of key personnel, as well as, local emergency medical services, police, fire, and hospital; directions to the nearest hospital capable of treating potentially injured on-site personnel; proposed emergency response actions and necessary PPE/equipment; and a spill containment program;

Before commencing any on-site operations, the Project Manager, in cooperation with the Site Health and Safety Representative, will advise all on-site personnel of potential emergencies. Evacuation and rescue plans, emergency assistance personnel, and the location of rescue equipment will be decided before any on-site activities commence.

Factors to be considered in formulating emergency response readiness include but are not limited to the following:

- Communication networks and warning signals;
- First Aid equipment;
- Rescue operations;
- Rapid notification of fire, police and emergency facilities;
- Site evacuation plans;
- Availability of transport vehicles;
- Extra Personal Protective Equipment

### **12.1 Definitions**

All hazardous waste site activities present a degree of risk to on-site personnel. During routine operations, establishing good work practices, staying alert and using proper personnel protective equipment minimize risk. Unpredictable events such as physical injury, chemical exposure, or fire may occur and must be anticipated.

Emergency conditions are considered to exist if:

- Any member of the field crew is involved in an accident or experiences any adverse effects or symptoms of exposure while on-site; or

- A condition is discovered that suggests the existence of a situation more hazardous than anticipated

## 12.2 Pre-Planning Procedures for Emergency Response

Before the conducting of fieldwork, the Site Health and Safety Representative, in cooperation with the Project Manager shall implement the following general emergency procedures. The implementation will consist of including the following considerations in project planning, as well as, site-specific training sessions for on-site personnel.

- In case of emergency, the appropriate contacts, shall be notified. This list shall be posted conspicuously on-site.
- 
- Personnel on-site shall use the “buddy” system (pairs). Friends should prearrange hand signals or other means of emergency signals for communication in case of lack of radios or radio breakdown, (see item below).
- Visual contact shall be maintained between “pairs” on-site with the team remaining in close proximity to assist each other in case of emergencies.
- Hand signals will be utilized by all field crews to convey emergencies and/or with the failure of two-way radio communication. As a minimum, hand signals, (as suggested under Section 10.5 - Communications), shall be understood and utilized by all on-site personnel.
- In the event that any on-site personnel experience any adverse effects or symptoms of exposure while on the scene, the entire field crew shall immediately halt work and act accordingly to the instructions provided by the Site Health and Safety Field Representative.
- The discovery of any condition that would suggest the existence of a situation more hazardous than anticipated should result in the evacuation of the field team and re-evaluation of the hazard and the level of protection required.
- In the event, an accident occurs, the Site Health and safety Representative shall conduct an Accident Investigation and appropriate corrective action shall be taken.
- All field crew members shall make use of their senses to alert themselves and others to potentially dangerous situations which they should avoid, (e.g., unusual odors or emission of vapors);
- Personnel should practice unfamiliar operations before doing the actual procedure in the field.
- Field crew members shall be familiar with the physical characteristics of the site, including:
  - ❖ Wind direction in relation to contamination zones (wind indicators visible to all on-site

personnel shall be provided to indicate possible routes of upwind escape);

- ❖ Accessibility to associates, equipment, vehicles, communication equipment and to the general site, (e.g., major highways);
- ❖ Exclusion zones;
- ❖ Site access; and nearest water supply
- Personnel and equipment in the contaminated area shall be kept to a minimum, consistent with effective site operations;
- Procedures for leaving a contaminated area must be planned and implemented prior to going on-site.

### 12.3 Key Personnel and Phone Numbers

All appropriate essential personnel and emergency telephone numbers will be listed under are listed below. These numbers shall be reviewed with on-site personnel and posted in a conspicuous position on-site, along with instructions for dealing with various emergency situations, such as explosions, fires, spills, or contact inquiries.

#### **CLEAN HARBORS ENVIRONMENTAL SERVICES, INC. OPERATIONS CONTACTS:**

General Manager

Calvin Lewis  
(Cell) 281-932-1172

#### **CLEAN HARBORS ENVIRONMENTAL SERVICES, INC. HEALTH AND SAFETY CONTACTS:**

Regional Health & Safety Manager

Harold Findley  
(Cell) 832- 347-2501

Director of Site Services Health and Safety

Tom Hagadorn  
(Pager) 800 391-3805

**“ CHESI Off-Hours phone coverage provided by Central Answering Service ”**

**Telephone 800-282-0058**



Environmental Services, Inc.

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# CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.

## JOB HAZARD ANALYSIS WORK SHEET

FACILITY: 49TX - HOUSTON, TX Gulfco Superfund Site

JHA #: Chloroform Tank

PAGE 1 OF 2

### I. JOB/TASK DESCRIPTION:

<u>TASK</u>	<u>PERSONNEL</u>	<u>EQUIPMENT</u>	<u>DURATION</u>
Review Work Plans, Safe Plans and Mobilize	Supervisor 1	Vac Truck	Estimate Mob/Demob = 1 Days
Secure Containment	Technician: 2	Scrubber	Estimate Waste Removal = 1 Days
Place and Hook-up Triton and Scrubber	Equipt. Op 1	Vac Truck	
Designate Work Zones, Secure all Permits		Diaphram Pump	Estimated Days on Site = 2 Days
Check Grounding/Start Scrubber/Remove Material			
Wash Tank, Disconnect, Decon and Demob			

### II. A. HAZARD IDENTIFICATION: OCCUPATIONAL HEALTH CONCERNS

<u>CHEMICAL AGENTS</u>	<u>PHYSICAL AGENTS</u>	<u>BIOLOGICAL AGENTS</u>
Chloroform Carbon	Slip, Trips, Falls, Exposure Vacuum Suction, Splash Hazard Weather, Vapor Release Pinch Points, Muscle Strains Sharp Objects, Static Energy Release	Insects Snakes

### II. B. HAZARD IDENTIFICATION: SAFETY CONCERNS

<u>ACTIONS</u>	<u>CONDITIONS</u>	<u>VEHICLE</u>	<u>PROPERTY</u>
PPE Level B - C/ALWAYS TAPE Check All Hook-ups Ground All Equipment Hole Watch Buddy-System	Weather Equipment Contamination Slick Surfaces Close Working Area	Proper PPE at All Times Includes TAPE Buddy-System Maintained Check Grounding Throughout Shift Control Emissions thru Scrubber Watch for Suction Issues	Watch for snakes Watch for vehicles Pay attention to footing

### II. C. HAZARD IDENTIFICATION: ENVIRONMENTAL CONCERNS

<u>RELEASE TO AIR</u>	<u>RELEASE TO SOIL</u>	<u>RELEASE TO WATER</u>	<u>OTHER</u>
Scrubber System for All Vapors, Exhaust, and Emissions.	None Anticipated	None Anticipated	Ground Spillage to be Prevented by Properly Setting up Containment, Monitor Hose Hook-ups Careful Connects and Disconnects.

# JOB HAZARD ANALYSIS WORK SHEET

FACILITY: 49TX - HOUSTON, TX

JHA #: Chloroform Tank

PAGE 2 OF 2

## III. JOB HAZARD CONTROL:

ENGINEERING	PPE	TRAINING	DECONTAMINATION	OTHER
Scrubber System for Vapor Recover	Hard hats	40 Hour HAZWOPER	Properly Don/Duff PPE	
Proper Hoses for Hook-Ups	Safety glasses	8 HR REFRESHER	Decon all Equipment	
Vac Truck to Suck Liquids	Safety boots	Fit Test	Clean Work Area	
Roll-Off Truck to Move Boxes	Hearing protection	Dow Training		
Proper Hand Tools for Hook-Ups	Level B	Chloroform MSDS		
	Level C			
	ALWAYS TAPE ALL PPE			
	Respirators			

## V. JOB HAZARD ANALYSIS SUMMARY & ACTION REQUIRED:

CHES will remove the chloroform waste from Tank # 17 utilizing a vacuum tanker. The emissions will be controlled with a carbon canister. The tank will then be rinsed utilizing 3" diaphragm pump and a spinner nozzle. The resulting waste water will be pumped into the tanker with the chloroform and sent to Deer Park for incineration.

The closest hospital is Brazosport Memorial, 100 Medical Drive, Lake Jackson, Texas. (Directions Attached)  
In case of emergency dial 911.

Gulfco Marine Maintenance  
906 Marlin Avenue, Freeport Texas

Emergency Contact Numbers: Calvin Lewis - GM 281-932-1172  
Tammy Brasher - FSS 281-830-5708  
John Chappell - H & S 281-478-7700

Chloroform MSDS is Attached

JOB HAZARD ANALYSIS COMPLETED BY: Tammy Jean Brasher

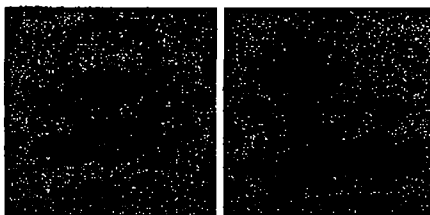
DATE: October 17, 2006

REVIEWED BY:

DATE:

NEXT REVIEW DATE:

# Safety (MSDS) data for chloroform



[Click here for data on chloroform in student-friendly format, from the HSci project](#)

## General

Synonyms: trichloromethane, methyl trichloride, formyl trichloride, methane trichloride, trichloroform, methenyl trichloride, trichlormethan

Molecular formula:  $\text{CHCl}_3$

CAS No: 67-66-3

EC No: 200-663-8

EC Index No: 602-006-00-4

## Physical data

Appearance: clear colourless liquid with a sweet odour

Melting point: -63 C

Boiling point: 61 C

Vapour density: 4.1

Vapour pressure: 159 mm Hg at 20 C

Specific gravity: 1.48 g/cm<sup>3</sup>

Flash point: none

Explosion limits:

Autoignition temperature:

## Stability

Stable. May decompose on exposure to light. Incompatible with a wide variety of materials, including peroxy compounds, alkali amides, strong bases, alkali metals, magnesium, aluminium, strong oxidizing agents.

## Toxicology

This material causes cancer in laboratory animals, and is IARC listed as a probable human carcinogen. Inhalation and ingestion are harmful and may be fatal. May cause reproductive damage. Irritant. Exposure to alcohol may increase toxic effects. Prolonged or repeated skin contact may cause dermatitis. Typical TLV 50 ppm.



**Toxicity data**

(The meaning of any abbreviations which appear in this section is given here.)

ORL-RAT LD50 1194 mg kg<sup>-1</sup>

ORL-MAN LDLO 2514 mg kg<sup>-1</sup>

SCU-MUS LD50 704 mg kg<sup>-1</sup>

IHL-RAT LC50 47 g m<sup>-3</sup> / 4h

IPR-MUS LD50 623 mg kg<sup>-1</sup>

ORL-GPG LD50 820 mg kg<sup>-1</sup>

SKN-RBT LD50 > 20000 mg kg<sup>-1</sup>

**Irritation data**

(The meaning of any abbreviations which appear in this section is given here.)

SKN-RBT 10 mg/24h open mld

**Risk phrases**

(The meaning of any risk phrases which appear in this section is given here.)

R20 R22 R38 R40 R48.

## Transport information

(The meaning of any UN hazard codes which appear in this section is given here.)

UN No 1888. Packing group III. Hazard class 6.1.

## Personal protection

Safety glasses and gloves. Good ventilation.

**Safety phrases**

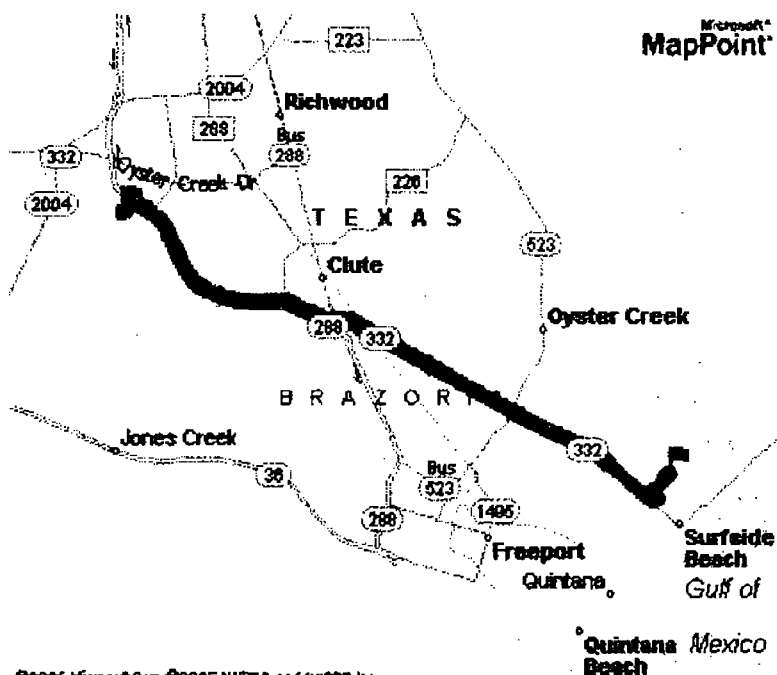
(The meaning of any safety phrases which appear in this section is given here.)

S36 S37.

[Return to Physical & Theoretical Chemistry Lab. Safety home page.]

This information was last updated on August 23, 2006. We have tried to make it as accurate and useful as possible, but can take no responsibility for its use, misuse, or accuracy. We have not verified this information, and cannot guarantee that it is up-to-date.

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Freeport, TX**End:**100 Medical Drive  
Lake Jackson, TXMicrosoft®  
MapPoint®
[Reverse Directions](#)  
[Edit Directions](#)
**Total Distance:** 12.11 miles  
**Total Time:** 23 mins and 21 secs.
**Directions:**

- |   |                                     |
|---|-------------------------------------|
| <b>1. Depart Start on Marlin Ln (South-West)</b>  | <b>Miles:</b><br><b>Go 0.42 mi.</b> |
| <b>2. Road name changes to Tarpon Ln</b>  | <b>Go 0.19 mi.</b>                  |
| <b>3. Turn RIGHT (West) onto Sailfish St, then immediately turn RIGHT (North) onto TX-332</b> | <b>Go 0.22 mi.</b>                  |
| <b>4. Bear RIGHT (North-West) onto SR-332</b>   | <b>Go 6.70 mi.</b>                  |
| <b>5. Merge onto SR-288 [SR-332]</b>  | <b>Go 4.27 mi.</b>                  |
| <b>6. Turn LEFT (South) onto Oak Dr S</b>   | <b>Go 0.30 mi.</b>                  |

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**ATTACHMENT C**

**CLEAN HARBOR'S ENVIRONMENTAL SERVICES, INC.  
INSURANCE CERTIFICATE**

**ACORD<sup>TM</sup> CERTIFICATE OF LIABILITY INSURANCE** Page 1 of 3DATE  
11/06/2006

<b>PRODUCER</b>  Willis North America, Inc. 26 Century Blvd. P. O. Box 305191 Nashville, TN 372305191		<b>877-945-7378</b>		<b>THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.</b>	
<b>INSURED</b>  Clean Harbors Environmental Services, Inc. and its subsidiaries. 42 Longwater Drive Norwell, MA 02061		<b>INSURERS AFFORDING COVERAGE</b>		<b>NAIC#</b>	
		INSURER A: Zurich American Insurance Company		16535-002	
		INSURER B: American Guarantee and Liability Insurance		26247-003	
		INSURER C:			
		INSURER D:			
		INSURER E:			

**COVERAGES**

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR	ADD'L	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	X	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> XCU <input checked="" type="checkbox"/> Contractual GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	GLO 9681229-00	11/1/2006	11/1/2007	EACH OCCURRENCE	\$ 2,000,000
						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 100,000
						MED EXP (Any one person)	\$ 5,000
						PERSONAL & ADV INJURY	\$ 2,000,000
						GENERAL AGGREGATE	\$ 3,000,000
						PRODUCTS - COM/OP AGG	\$ 2,000,000
A	X	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input checked="" type="checkbox"/> MCS-90	BAP 6681231-00	11/1/2006	11/1/2007	COMBINED SINGLE LIMIT (Ea accident)	\$ 5,000,000
						BODILY INJURY (Per person)	\$
						BODILY INJURY (Per accident)	\$
						PROPERTY DAMAGE (Per accident)	\$
		GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT	\$
						OTHER THAN EA ACC AGG	\$
B	X	EXCESS LIABILITY <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE RETENTION \$	AUC4275262-02	11/1/2006	11/1/2007	EACH OCCURRENCE	\$ 10,000,000
						AGGREGATE	\$ 10,000,000
							\$
							\$
							\$
A		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below OTHER	AOS WC 9681232-00	11/1/2006	11/1/2007	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER	
						E.L. EACH ACCIDENT	\$ 2,000,000
						E.L. DISEASE - EA EMPLOYEE	\$ 2,000,000
						E.L. DISEASE - POLICY LIMIT	\$ 2,000,000

**DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS**

The Dow Chemical Company and its employees, officers, directors, agents, partners, successors and assigns, U.S. EPA and Pastor, Behling & Wheeler, LLC are Additional Insured for General Liability, Auto Liability and Umbrella Liability as their interest may appear but only with respect to liability arising out of operations of the Named Insured.

Primary and non-contributory applies to the General Liability policy.

**CERTIFICATE HOLDER**

The Dow Chemical Company  
Attention: Regina Evans  
2030 Dow Center  
Midland, MI 48674

**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

**Willis****CERTIFICATE OF LIABILITY INSURANCE**

Page 2 of 3

DATE  
11/06/2006

PRODUCER	877-945-7378	THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
		INSURERS AFFORDING COVERAGE	NAIC#
INSURED	Clean Harbors Environmental Services, Inc. and its subsidiaries. 42 Longwater Drive Norwell, MA 02061	INSURER A: Zurich American Insurance Company	16535-002
		INSURER B: American Guarantee and Liability Insuranc	26247-003
		INSURER C:	
		INSURER D:	
		INSURER E:	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

## **IMPORTANT**

If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

## **DISCLAIMER**

The Certificate of Insurance on the reverse side of this form does not constitute a contract between the issuing insurer(s), authorized representative or producer, and the certificate holder, nor does it affirmatively or negatively amend, extend or alter the coverage afforded by the policies listed thereon.

**ATTACHMENT D**

**CLEAN HARBOR'S ENVIRONMENTAL SERVICES, INC.  
QUALITY MANAGEMENT PLAN**

**QUALITY MANAGEMENT PLAN**  
**CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.**

**Gulfco Marine Maintenance Superfund Site**  
**Freeport, Texas**

**Quality Assurance/Quality Control Objectives**

Clean Harbors' relentless focus on Quality Assurance and Quality Control is sustained through 3 primary programs: ***Information Management Systems, Purchasing, and Risk Management***. These programs are discussed below.

**Information Management Systems**

Clean Harbors routinely performs hundreds of projects each day ranging from routine industrial cleaning to complex technical services. The Company's employees are competent and trained in every aspect of documentation from confined space entry to land disposal restriction forms. An example is Clean Harbors' chemists who are equipped with laptop computers and CHOICE Waste Management Software with labpack and regulatory forms functionality that translates to efficiency and quality control.

Clean Harbors is uniquely qualified through its information systems to manage virtually any contract. Through a company-wide *CleanLink* computer system, all service centers and TSDF's are linked on a real-time basis. Order entry, specific requirements and/or restrictions as well as management reports on waste volumes generated, types of wastes produced, waste codes, disposal methods and other key criteria can be tailored to the customer's needs. Our goal is to provide fast, personalized service through maintaining "***local relationships***".

Our systems also provide communications between our logistics controllers, our drivers and our plant operations, keeping tight control over a waste stream at all times. Most importantly, we deliver on-line tracking reports that provide the details of the transportation, processing and disposal of hazardous waste.

Clean Harbors utilizes an array of integrated programs designed to maintain security, ensure data integrity, offer unique services to our customers, and be flexible to respond to the business needs of the company. Clean Harbors selected hardware platforms to complement the software requirements to meet our business need and plans for growth. The primary business applications consist of SQL, PCDOC, TTS and Peoplesoft, which provide the platform for waste management, document storage, transportation management, and accounting/finance, respectively. Other selected applications are maintained on a PC platform with the ability to transfer data as appropriate. Clean Harbors system provides for distributed access and electronic report distribution to provide data and reporting information to our various locations.



Clean Harbors has developed many-sophisticated proprietary software programs as part of our relational database to address the internal and external needs of the company and its customers. These include:

- *Profile Management System:* All pertinent information for each waste stream needs such as constituents, hazards, EPA and DOT information etc., is maintained here.
- *Proactive Scheduling:* A system where each generator location is set up on routine pick-up cycles.
- *Central Order Placement Call:* A Clean Harbors representative will call two weeks in advance of each scheduled pickup to confirm. Clean Harbors will coordinate all pertinent paperwork such as manifests and labels.
- *Comprehensive Tracking System:* The relational database will capture and track all activities through the use of bar code labeling.
- *Compliance Management System:* All uniform hazardous waste manifests and bills of lading are scanned into our system and will be available as part of our tracking and reporting systems.

### Technological Support

Since 1980, Clean Harbors has grown to be a national leader in the industry. By providing a wide range of services we strive to consistently meet customer needs. In the early years of our business Clean Harbors developed integrated and organized systems that continue to provide strength and allow us to best manage our business. Included, was the development and use of bar code waste tracking to track waste materials as they moved from our customer's locations into and through our plants for ultimate disposal. Today, waste tracking is a vital necessity for any environmental manager.

The following pages provide a brief illustration of Clean Harbors' management systems.

### E-Commerce

In 1996, with the advent of the Internet, Clean Harbors led the industry offering on-line access to customers waste tracking reports. Being a leader, Clean Harbors brings advanced systems and technology to the marketplace that enable customers to make the best decisions for waste management, while controlling costs and increasing efficiencies. Clean Harbors continues to focus on further advancements in waste management technology and the needs of our customers.

Today, we offer customers secure interactive access to all their information via in the Internet through an e-Commerce strategy. Customers can manage their environmental

program on-line at [www.cleanharbors.com](http://www.cleanharbors.com) enabling them to create and submit profiles, and access existing waste profiles. Our on-line systems work to save customers time while lowering risk.

### BEACON

The primary quality assurance tool for the account manager is Clean Harbors' customer relationship management database known as "BEACON".

In 2001, Clean Harbors implemented "BEACON" whose main purpose is to:

- Provide real time communication between sales and operations.
- Provide historical documentation of customer activity/issues
- Provide a measurement system for customer satisfaction.
- Provide senior management with a true understanding of customer issues.

BEACON serves as a database which documents and updates customer information, activity levels and level of satisfaction. This ongoing system is enhanced by customer quality surveys.

### Procurement Initiatives

Corporate Purchasing, in support of the Goals and Objectives outlined in Clean Harbors' Mission Statement, will strive to enhance Clean Harbors' position in the environmental services industry through development of a world-class supplier base that is capable of furnishing a product or service of superior quality and maximum value. In accomplishing this mission we establish long-term, finite control of our costs, which manifests itself in long term, price-stable commitments. Clean Harbors Purchasing Mission is provided below:

*We will accomplish this through the highest professional standards of business practices and ethics while promoting partnerships with premier suppliers. We recognize the critical role of our suppliers in the support of our efforts, and as such pledge our commitment to:*

- Establish collaborative relationships with key suppliers in order to infuse new products, practices, and concepts, into our industry.
- Constantly grow in terms of awareness and knowledge of the marketplace, products, and business practices, by maintaining open communications with key parties and partaking in appropriate educational opportunities.
- Represent Clean Harbors in the highest professional manner while conducting business in an ethical and forthright fashion.
- Manage supplier relationships and assume a proactive role in the procurement cycle ensuring that Clean Harbors receives the highest value products and services at world-class prices.

- Promote the concept of value analysis and encourage our supplier base to practice this concept within their organizations, in order to enhance the value of every purchased product.
- Establish and aggressively pursue the goals and objectives of continuous improvement in order to lower the cost of quality within the Purchasing Organization and throughout Clean Harbors.
- Produce measurable results favorably impacting Clean Harbors' profitability and image.

### **Small Business Utilization**

Clean Harbors believes that supplier diversity makes good business sense because diversity increases the potential for outstanding business results, which in turn, enhances the competitive advantage and overall performance of the company.

Continued growth, national expansion and escalation of involvement with federal contracts has impelled Clean Harbors to engage in a number of diversity initiatives at the corporate level. These initiatives are supported throughout the entire organization and continuously enhanced. We have a corporate obligation to the minority business community and to our clients. Our policy is to provide equitable opportunities for minority and women-owned businesses (herein, SB) to participate as suppliers or subcontractors to Clean Harbors.

Clean Harbors Purchasing Managers are members of the Purchasing Managers Association of Boston and the National Association of Purchasing Managers that serves as a network for resources required in purchasing activities. Clean Harbors recognizes that in some cases, contracts with the Federal Government have a statutorily mandated Small Business Subcontracting requirement as set forth in ***Federal Acquisition Regulations ~ Subpart 19.7***. As an important tool in subcontractor/supplier selection processes, Clean Harbors subscribes to the Small Business Administration's Procurement Automated Source System (PASS), which is an on-line computer database of SBA-certified MBE/WBE/DBE contractors and suppliers. These firms are listed by location, capability, and status. Based on current SDB utilization in areas currently serviced by CHES, a significant number of suppliers are available in numerous contract areas. However, it is anticipated that the availability of SDB suppliers particular to the proposed scope of services will vary throughout the proposed contract areas. Demographic trends in many states indicate that the number of suppliers will continue to increase.

As part of Clean Harbors' strategic sourcing initiative, we have reduced the number of our primary suppliers from 3,000 to 400, while increasing utilization of SB vendors. Over the past few years, Clean Harbors' Small Business purchases have on average, increased to nearly \$1,000,000 annually.

Clean Harbors recognizes the value and contribution of Small Business suppliers. Any company considered as a potential supplier to Clean Harbors is subjected to a complete audit including factors such as financial status, regulatory status and insurance and bonding capabilities.

## **Risk Management**

### **Premier Liability Management**

Clean Harbors has developed strict management guidelines for the protection of our company's assets. Our customers benefit from this rigorous process from the assurance that long-term liabilities are being controlled. Our Liability Management Program includes:

- A communicated company wide expectation for standards and values
- Enforced policies and procedures
- The best tracking in the waste industry
- A central control system to prevent shipments being sent to un-approved disposal vendors
- Independent Compliance and Health & Safety organizations
- Contractual Indemnification

### **The Compliance Organization**

The heart of our Liability Program begins with our compliance organization. Since the department's creation in the 1980's it has always reported independently from our operations. Today the department reports to our General Counsel who reports to our CEO. This independence insures appropriate oversight of our operations. To further assure our compliance efforts Clean Harbors has periodic external audits of our entire program. These external audits issue their findings directly to our Board of Directors. However, the responsibility of compliance rests with every member of our organization, not just our compliance officers. We assure compliance through:

- Written policies and procedures (completely revised as of 12/2000)
- Mandatory training for every employee
- Written pledges of compliance from all managers
- Routine written and verbal communication of compliance goals
- Awards for compliance achievement
- Compliance requirements in all job descriptions

The entire Clean Harbors community is vitally involved with adherence to our compliance commitments.

### **The Health & Safety Organization**

The Health & Safety of our employees is primary to our existence. We are a company of professionals, often performing dangerous work under stressful conditions. We recognize the significance of our responsibility to operate safely both in our treatment plants as well as at customer sites and across the highways of the country. Our efforts to

operate safely protect our customers from unnecessary publicity and costly litigation. Our Health and Safety focus includes:

- Prescreening new hires for health issues
- Mandatory training for new hires
- Mandatory on going training for all employees based on their job requirements
- Central control and monitoring of health and safety training

Our Health and Safety commitments are crucial to our survival and our customers benefit from our conservative progressive program.

### Control of External Liabilities

Clean Harbors has recognized from our original incorporation that our customers need reliability and assurance in dealing with waste management liabilities. The common concept of cradle to grave management has never been more concerning than in the recent two years with several bankruptcies, mergers and divestitures. Corporate guarantees from bankrupt entities will mean little protection in Superfund litigation.

Today's division of a multimillion international organization can be tomorrow's independent, locally owned operation.

Recognizing this industry dynamic Clean Harbors has chosen to operate and manage our waste management program with both conservative choices for ultimate disposal options but also routine and vigorous monitoring of these sites for compliance with all regulations and their operating permits. Our external liability control includes these features:

- Economic viability of any site prior to auditing
- Pre-audit procedures for permit review
- Physical audits for all RCRA regulated facilities
- Routine review of the permit status, NOVs and regulatory agency information on all approved facilities

We encourage our customers to begin their audit of our operations at our corporate offices. We encourage a thorough review of our policies and procedures, our control systems and to meet our senior managers to understand our corporate philosophy and goals.

### Corporate Indemnification

Clean Harbors offers specific contractual commitments covering the work we perform and subcontract. Clean Harbors will execute specific agreements detailing indemnification and our commitment to adhere to all local, state and federal regulations. We stand behind our decisions to manage wastes to provide the lowest long-term liability. Premier Liability Management - It's not just a policy or a contract it's the entire scope of the way we manage our business. Clean Harbors is driven to be the long-term low cost provider for the life cycle of your waste.

### Insurance Coverage

Clean Harbors' Insurance Program is managed through the Corporate Risk Management Department utilizing the brokerage services of William Gallagher Associates Insurance Brokers, Inc. All policies are purchased with Clean Harbors, Inc. as the named insured. Subsidiaries of Clean Harbors are insured under the Broad Form named insured endorsement.

Clean Harbors policies include the following types of coverage:

- Workers' Compensation and Employers' Liability
- Business Automobile Liability
- Comprehensive General Liability
- Umbrella Liability
- Contractors' Pollution Liability
- Pollution Liability
- Protection and Indemnity
- Excess Pollution Liability (Facilities and Fleet)

Clean Harbors also maintains an extensive Property Insurance Program insuring the physical assets of the company (buildings and equipment) for damage or destruction.

Additional information regarding the names of the insurers, expiration dates and policy numbers is available upon request.